

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/020575

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H03G3/30 H03F1/02 H03F1/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H03G H03F H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| Y | US 6 535 066 B1 (PETSKO DAVID) 18 March 2003 (2003-03-18) column 2, line 24 - column 5, line 64 figures 1-4 | 1-12 |
| Y | US 5 625 322 A (SOULA VERONIQUE ET AL) 29 April 1997 (1997-04-29) column 2, line 19 - column 9, line 6 figures 1-5 | 1-12 |
| A | US 5 119 040 A (LONG JAMES F ET AL) 2 June 1992 (1992-06-02) column 1, line 45 - column 6, line 23 figures 1-4 | 1-12 |
| A | US 6 298 221 B1 (NGUYEN DIEN M) 2 October 2001 (2001-10-02) cited in the application the whole document | 1-12 |

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the International filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

14 September 2004

Date of mailing of the international search report

15/10/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Goethals, F

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/020575

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|----|---------------------|---|--|
| US 6535066 | B1 | 18-03-2003 | NONE | |
| US 5625322 | A | 29-04-1997 | FR 2716313 A1 AT 171827 T AU 690175 B2 AU 1136295 A CA 2141981 A1 DE 69505024 D1 DE 69505024 T2 EP 0667675 A1 ES 2124973 T3 JP 7326938 A | 18-08-1995 15-10-1998 23-04-1998 24-08-1995 12-08-1995 05-11-1998 01-04-1999 16-08-1995 16-02-1999 12-12-1995 |
| US 5119040 | A | 02-06-1992 | AU 646548 B2 AU 1184192 A BR 9204263 A CA 2073327 A1 CN 1066942 A ,B EP 0520062 A1 JP 5505296 T MX 9200021 A1 NZ 241219 A WO 9212571 A1 | 24-02-1994 17-08-1992 08-06-1993 05-07-1992 09-12-1992 30-12-1992 05-08-1993 01-08-1992 25-02-1994 23-07-1992 |
| US 6298221 | B1 | 02-10-2001 | JP 11317690 A | 16-11-1999 |